

Claims

That which is claimed is:

- 5 1. A process for producing low-molecular olefins by pyrolysis of hydrocarbons, which comprises preheating and evaporating a starting feedstock, mixing the same with a steam-diluent, heating a resulting mixture to pyrolysis temperature in a blading rotary reactor by heat generated inside a volume of the mixture due to hydrodynamic drag of the rotor blades rotating therein, quenching a cracked gas and subsequent separation of it, wherein the said heating the mixture to the pyrolysis temperature is performed by mixing with hot
- 10 pyrolyzed gas being circulated in a working cavity of the blading rotary reactor for a negligible time in comparison with a duration of pyrolysis reactions.
- 15 2. The process of claim 1, wherein the said preheating the feedstock and steam-diluent is performed in two stages, and in the second stage the preheating is carried out in a heat exchanger by utilizing a heat contained in the cracked gas outgoing from the blading rotary
- 20 reactor.
3. A reactor for pyrolysis of hydrocarbons comprising a housing with directing stationary blades, an inlet nipple for supplying feedstock, an outlet nipple for carrying off cracked gas and a working wheel provided with a blade crown, wherein the said housing has an annular cavity for circulation of hot pyrolyzed gas, which contains the
- 25 directing stationary blades and surrounds the blade crown of the working wheel along periphery, and the said inlet nipple for supplying feedstock and outlet nipple for carrying off cracked gas are communicated with the said cavity.
4. The reactor of claim 3, wherein the housing consists of a casing and a heat-resistant skin fastened together, and the casing is covered on the inside by heat insulation.
- 30 5. An apparatus for quenching cracked gas comprising a heat exchanger having spaces for cooled and heated fluids separated by a wall, wherein the said apparatus is provided with a tee and with an ejector comprising a nozzle, admission chamber and mixing chamber, so that the mixing chamber of the ejector and one of nipples of the tee are communicated with the space of cooled fluid, and the admission chamber of the
- 30 ejector is connected with the another nipple of the tee.